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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : John C. Connolly et al. Art Unit : 2828
Serial No. : 09/710,362 Examiner : James A. Menefee
Filed : November 10, 2000
Title : METHOD FOR CONTROLLING CURRENT SPREADING IN
SEMICONDUCTOR LASER DIODES

Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT TO RCE FILED ON JANUARY 13, 2003, IN RESPONSE
TO OFFICE ACTION DATED SEPTEMBER 11, 2002.

Prior to examination, please amend the application as indicated below and consider the following remarks:

In the claims:

Cancel claim 1-23

[Add new claims 24-34.]

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24. A ridge waveguide semiconductor laser diode adapted to support desired lateral modes of generated light, comprising:

a first cladding layer having a ridge with a first width at a bottom of the ridge;

a second cladding layer;

an active layer disposed between the first and second cladding layers;

a first conductor layer disposed on top of the ridge for application of current to the laser;

a defined gain region within the active layer adapted for conducting the current, wherein the defined gain region has a second width greater than the first width;

reduced conductivity regions within the active layer, flanking the defined gain region;

and

a second conductor layer for conducting current from the first conductor layer through the active layer.

25. The semiconductor laser diode according to claim 24, further comprising at least one quantum well layer formed within the active layer.